

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Artur Andrzejak et al.

Confirmation No.:

Application No.:

Examiner:

Filing Date:

Group Art Unit:

Title: DETERMINING PLACEMENT OF DISTRIBUTED APPLICATION ONTO DISTRIBUTED
RESOURCE INFRASTRUCTURE

COMMISSIONER FOR PATENTS

Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or
(Within three months of filing national application; or date of entry of national application; or before
mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
☐ Statement under 37 CFR 1.97(e), or
☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:
☐ Statement under 37 CFR 1.97(e)(1) or (2), and
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00 . At any time during the
pendency of this application, please charge any fees required or credit any overpayment to Deposit
Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Citation together with
copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s)
believe(s) may be material to the examination of this application and for which there may be a duty to
disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications
and other foreign language information listed on PTO Form 1449, as presently understood by the
individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the
attached sheet, or where a foreign language patent is cited in a search report or other action by a
foreign patent office in a counterpart foreign application, an English language version of the search
report or action which indicates the degree of relevance found by the foreign office is listed on form PTO
1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. **EU687335845US**

Date of Deposit **July 25, 2003**

I hereby certify that this is being deposited with the
United States Postal Service "Express Mail Post
Office to Addressee" service under 37 CFR 1.10 on
the date indicated above and is addressed to:
Commissioner for Patents, Washington, D.C.
20231

By 

Typed Name: **Daniel Ratoff**

Respectfully submitted,

Artur Andrzejak et al.

By 

Derek J. Westberg

Attorney/Agent for Applicant(s)

Reg. No. **40,872**

Date: **July 25, 2003**

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

200209179-1

APPLICATION NO.

CONFIRMATION NO.

APPLICANT

Artur Andrzejak et al.

FILING DATE

GROUP

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	6,526,420-B2	Feb. 25, 2003	Borowsky et al.	
	1B	6,031,984-A	Feb. 29, 2000	Walser	
	1C				
	1D				
	1E				
	1F				
	1G				
	1H				
	1I				
	1J				
	1K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

1Q	SVEN GRAUPNER, VADIM KOTOV, ARTUR ANDRSEJAK, HOLGER TRINKS, Control Architecture for Service Grids in a Federation of Utility Data Centers, HP Labs Technical Report HPL-2002-235, Hewlett-Packard Company, Palo Alto, 2002. < http://www.hpl.hp.com/techreports/2002/HPL-2002-235.pdf >
1R	ARTUR ANDRZEJAK, SVEN GRAUPNER, VADIM KOTOV, HOLGER TRINKS, Algorithms for Self-Organization and Adaptive Service Placement in Dynamic Distributed Systems, HP Labs Technical Report, HPL-2002-259, Hewlett-Packard Company, Palo Alto, September 2002. < http://www.hpl.hp.com/techreports/2002/HPL-2002-259.pdf >
1S	CIPRIANPO SANTOS, XIAOYUN ZHU, HARLAN CROWDER, A Mathematical Optimization Approach for Resource Allocation in Large Scale Data Centers, HP Labs Technical Report, HPL-2002-64R1, Hewlett-Packard Company, Palo Alto, 2002. < http://www.hpl.hp.com/techreports/2002/HPL-2002-64R1.pdf >

EXAMINER

DATE CONSIDERED

FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO.	APPLICATION NO.	CONFIRMATION NO.
	200209179-1		
	APPLICANT		
	Artur Andrzejak et al.		
	FILING DATE	GROUP	

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	2A				
	2B				
	2C				
	2D				
	2E				
	2F				
	2G				
	2H				
	2I				
	2J				
	2K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L					
	2M					
	2N					
	2O					
	2P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

2Q	PARAMESWARAN RAMANATHAN, SURESH CHALASANI, Resource Placement with Multiple Adjacency Constraints in K-ary n-Cubes, IEEE transactions on Parallel & Distributed Systems, May 1995, Vol. 6, No. 5, pp. 511-519, IEEE Press, Los Alamitos, 1995.
2R	SVEN GRAUPNER, VADIM KOTOV, HOLGER TRINKS, Resource-Sharing and Service Deployment in Virtual Data Centers, The 22nd International Conference on Distributed Computing Systems Workshops, Vienna Austria, July 2-5, 2002, pp. 666-671, IEEE Computer Society, Los Alamitos, 2002.
2S	CHRISTODOULOUS A. FLOUDAS, V. VISWESWARAN, Quadratic Optomization, Handbook of Global Optimization, pp. 217-269, Kluwer Academic Publishers, Boston, 1995.

EXAMINER

DATE CONSIDERED

FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO.	APPLICATION NO.	CONFIRMATION NO.
	200209179-1		
	APPLICANT		
	Artur Andrzejak et al.		
	FILING DATE	GROUP	

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A				
	3B				
	3C				
	3D				
	3E				
	3F				
	3G				
	3H				
	3I				
	3J				
	3K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	3L					
	3M					
	3N					
	3O					
	3P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

3Q	JOACHIM P. WALSER, Solving Linear Pseudo-Boolean Constraint Problems with Local Search, Proceedings of the Fourteenth National Conference on Artificial Intelligence and the Ninth Innovative Applications of Artificial Intelligence Conference, July 27-31, 1997, Providence, Rhode Island, pp. 269-274, AAAI Press, Menlo Park, 1997.
3R	BART SELMAN, HECTOR LEVESQUE, DAVID MITCHELL, A New Method for Solving Hard Satisfiability Problems, Proceedings of the Tenth National Conference on Artificial Intelligence July 12-16, 1992, San Jose, California, pp. 440-446, AAAI Press, Menlo Park, 1992.
3S	DAVID ABRAMSON, HENRY DANG, MOHAN KRISHNAMOORTHY, A Comparison of Two Methods for Solving 0-1 Integer Programs Using a General Purpose Simulated Annealing Algorithm, Annals of Operations Research, v. 63, pp. 129-150, Baltzer Science, Amsterdam, Netherlands, 1996.

EXAMINER

DATE CONSIDERED

FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 200209179-1	APPLICATION NO.	CONFIRMATION NO.
	APPLICANT Artur Andrzejak et al.		
	FILING DATE	GROUP	

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	4A				
	4B				
	4C				
	4D				
	4E				
	4F				
	4G				
	4H				
	4I				
	4J				
	4K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	4L					
	4M					
	4N					
	4O					
	4P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

4Q	JOACHIM PAUL WALSER, Domain-Independent Local Search for Linear Integer Optimization, Dissertation, Programming Systems Lab, Universitat de Saarlandes, Saarbrücken, Germany, October, 1998.
4R	BART SELMAN, Greedy Local Search in MIT Encyclopedia of the Cognitive Sciences, MIT Press, Cambridge, 1999
4S	BART SELMAN, HENRY A. KAUTZ, BRAM COHEN, Local Search Strategies for Satisfiability Testing Presented at the Second DIMACS Challenge on Cliques, Coloring, and Satisfiability, October 11-13, 1993 Piscataway, New Jersey.

EXAMINER

DATE CONSIDERED

FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 200209179-1	APPLICATION NO.	CONFIRMATION NO.
	APPLICANT Artur Andrzejak et al.		
	FILING DATE	GROUP	

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	5A				
	5B				
	5C				
	5D				
	5E				
	5F				
	5G				
	5H				
	5I				
	5J				
	5K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	5L					
	5M					
	5N					
	5O					
	5P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	5Q	BART SELMAN, HENRY A. KAUTZ, BRAM COHEN, Noise Strategies for Improved Local Search, Proceedings of the Twelfth National Conference on Artificial Intelligence, August 1-4, 1994, Seattle, Washington, pp. 337-343, AAAI Press, Menlo Park, 1994.
	5R	
	5S	

EXAMINER

DATE CONSIDERED